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Subject: Options Paper – National Electricity Amendment (Integrating Energy Storage Systems into the NEM) Rule 2021
Ref: ERC0280

Dear Benn,

We thank you and your team for the considerable effort expended on activities such as this one and are pleased to share our response to the Options Paper released 17 December 2020 in relation to the rule change request lodged by AEMO (Ref: ERC0280).

In responding to the questions posed in the Options Paper, we have focused our attention on the topics of greatest relevance to us and have utilised the template provided on the AEMC website, which you will find attached.

As always, we are happy to further discuss any element of our submission with your team and look forward to working further together on this and the various other rule changes needed to set the framework for the NEM of the future.

With best regards,

Martin Kennedy
Head of Sales – Hydropower
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Integrating storage – options paper: stakeholder feedback template

The template below has been developed to assist stakeholders in providing their feedback on the questions posed in this paper and any other issues that they would like to provide feedback on. The AEMC encourages stakeholders to use this template to assist it to consider the views expressed by stakeholders on each issue. Stakeholders should not feel obliged to answer each question, but rather address those issues of particular interest or concern. Further context for the questions can be found in the consultation paper.

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Questions		Feedback
Chapter 1 – Registration and participation framework		
Question 1: Registration and classification (p. 17)		
1	Is introducing a new participant category, an Integrated Resource Provider (option 4), to better facilitate entry and participation of storage and hybrid facility, more preferable than modifying existing participant categories (option 3)? Are either option 3 or 4 more preferable to options 1 and 2?	Option 4 appears preferable as it builds in a more tangible manner towards the future envisioned in the 2-sided market initiative. This being said, both option 3 and 4 appear to address the majority of the concerns raised – e.g. the double payment of registration fees
Question 2: Classifying MSGAs (p. 18)		
1	Do you agree that, if an Integrated Resource Provider category (option 4) is established, battery aggregators should use that category and MSGAs should not be allowed to classify storage units exempt from the requirements to register as a Generator? And in that case, should the current arrangements regarding the	Market Small Generation Aggregators (MSGAs) that aggregate small generation and storage assets across many different locations are clearly different to large generation or storage assets in terms of their impact on the network, generally dispatching (and charging) via the distribution network as well as the transmission network, whereas large assets would do so via only the transmission network. This has logical implications in terms of how TUOS and DUOS costs should be allocated and the ability (or not) of MGSAs to provide ancillary services into the transmission network.

Questions		Feedback
	provision of market ancillary services by MSGAs be maintained?	
Question 3: Existing storage participants (p. 19)		
1	Should existing storage participants be transitioned to a single participant category (as they are currently registered as both a Market Generator and Market Customer)?	Transitioning operating assets from one registration approach to a new one could be problematic if it were to impact the asset's operating flexibility or financial performance. Making it optional (and/or free of charge) to change registration category, at least in the short term as the market transitions, would be less disruptive.
Question 4: Scheduling of hybrid facilities (p. 20)		
1	What proportion of a hybrid facility's sent-out generation capacity would need to be dispatchable for the whole of the hybrid facility's sent-out generation to be able to follow dispatch instructions, under a single DUID?	This would need to be determined on a case by case basis depending on the characteristics of the component technologies within the hybrid facility and the accompanying wind/solar resource characteristics.
2	Would a dynamic approach to scheduling obligations, for example shifting between scheduled and semi-scheduled obligations based on the state of charge of the storage unit, be appropriate, and how should this operate?	If feasible from an operational perspective, dynamically adjusting the capacity seems more logical than dynamically adjusting scheduling obligations. For instance, if a facility with a nameplate capacity of 100MW has only 8.33MWh in storage, it should ideally show as available for 100MW until it is dispatched (for one interval) and then show as 0MW until it has had a chance to recharge.
3	Could the same approach be taken to scheduling load where storage is added to a Market Customer's site, or should different considerations apply?	In the above example, the fully discharged storage facility would sit there as a 100MW available load for as many intervals as it takes for the facility to return to a 100% state of charge. Unlike semi-scheduled technologies, storage is always dispatchable (and hence could be scheduled) as either a load, a generator or even both (if it is neither fully charged nor fully discharged.)
Question 5: Number of price bands (p. 21)		
1	Do you agree that 20 price bands would be appropriate for grid-scale batteries or would another number of bands be more appropriate?	This seems to be sufficiently granular, while also avoiding excessive complexity in the early stages of implementing the changes under consideration. If a need emerges in future, the number of price bands could be increased (or decreased) at that point.

Questions		Feedback
Question 6: Dispatching hybrid facilities (p. 21)		
1	Are there certain configurations of hybrid facilities that cannot, or should not, be dispatched at a single connection point?	As we transition to a service provider model, it is difficult to foresee why we would not allow hybrid facilities to combine whatever they wish 'behind the meter', provided they honour their commitments at the connection point. Or to put it differently, if they are meeting their commitments/obligations at the connection point, why do we care what they have sitting behind the connection point?
2	What benefits are achieved by dispatching a hybrid facility at a single connection point, and what issues arise?	Potential benefits would be increased flexibility for the hybrid owner/operator to configure the optimal combination of technologies to meet a given set of needs/requirements at connection point. This could theoretically enable greater innovation and lower cost. Per above, provided the owner is meeting their commitments at the point of connection, it is not clear what issues arise. Where they may fail to meet their commitments could be if their technology mix is varying over time, being sometimes variable vs other times firm and sometimes synchronous vs other times asynchronous.
Question 7: Performance standards (p. 22)		
1	What issues may arise if performance and access standards are set at the connection point for hybrid facilities? Would these standards need to be amended to provide appropriate flexibility for hybrid facilities?	The most likely situation in which challenges could occur would appear to be if the characteristics of the hybrid facility at the connection point are varying significantly from one point in time to the next. If the facility cannot be designed/configured to provide a consistent and predictable set of performance characteristics at connection point, then either the approach to performance standards and connections would need to be amended or the different technologies within the facility would need to ultimately connect individually, functioning in effect as a 'virtual hybrid' rather than an electrical one.
Chapter 3 – Recovery of non-energy costs		
Question 8: Options for the recovery of non-energy costs (p. 27)		
1	Which option do you consider to be the most appropriate for the recovery of non- energy costs from market participants? Please provide detail on why it would be the most appropriate option.	As noted in our prior submission, if non-energy costs relate primarily to the cost of providing system stability services such as inertia and system strength, then it appears unfair and

Questions		Feedback
		counterproductive to charge technologies such as fixed speed pumped hydro for a share of a cost that their operations are actually helping to reduce. Very simply: those whose operations are helping reduce a cost for everyone else should not be penalised for doing so. On the contrary they should be compensated/paid. Apart from the above qualification, recovery of non-energy costs on a basis of causer pays (where clear causers can be identified) or beneficiary pays (where causers are not clear) appears logical.
2	Are there any other factors the Commission should consider when deciding how non-energy costs should be recovered from market participants?	
3	Are there any implementation issues the Commission should consider?	Over what timeframe would the changes be implemented? What impact would they have on the non-energy costs for typical operators? Are there any unintended consequences or perverse incentives that would be created?
Chapter 4 – Additional issues relating to storage		
Question 9: Network service provider connection points (p. 34)		
1	Do you support the solution outlined in this options paper for resolving the potential issues with establishing standards for NSP owned energy storage?	The situation described only appears to arise if the NSP were to own the dispatch rights. If dispatch is contracted to a third party, there appears to be no problem with the current approach. On the other hand, if the intent of the rule change is to enable NSPs to own dispatch rights for storage assets, then this is a much more fundamental change to their role in the NEM that would warrant a comprehensive assessment and consultation in its own right.
2	If not, do you consider there to be other potential solutions for resolving this issue?	
Question 10: DC coupled systems (p. 38)		
1	What capital, operational or efficiency benefits do DC-coupled systems provide participants and the NEM as a whole, and how might these benefits help consumers in line with the NEO?	

Questions		Feedback
2	Do you support amending the NER to permit the registration and operation of DC-coupled systems? If so, how should they register and operate?	
Question 11: Provision of ancillary services (p. 40)		
1	Do you support AEMO's proposal to redraft ancillary services provisions in Chapter 2 of the NER to make it more consistent with the services approach to regulation currently being considered by the ESB's two-sided market work? Please explain why or why not.	It seems logical to start aligning wording of the NER with the pathway envisaged by the ESB.